Listing of Claims:

1-78. (Cancelled)

79. (New) A method of generating a tissue in a subject comprising administering to the subject a population of cells enriched for STRO-1^{bright} cells, wherein such STRO-1^{bright} cells are mesenchymal precursor cells which comprise mesenchymal precursor cells capable of giving rise to colony forming unit-fibroblasts (CFU-F) so as to generate the tissue in the subject.

80. (New) The method of claim 79, wherein the tissue is a mesenchymal tissue.

81. (New) The method of claim 80, wherein the mesenchymal tissue is smooth muscle, cardiac muscle or endothelial tissue.

82. (New) The method of claim 79, wherein the tissue is non-haemopoietic tissue.

83. (New) The method of claim 82, wherein the tissue is adipose, areolar, bone, cartilaginous, elastic, or fibrous connective tissue.

84. (New) The method of claim 79, wherein the mesenchymal precursor cells carry at least one additional marker selected from the group of surface markers consisting of THY-1, VCAM-1, STRO-2, and CD146.

85. (New) The method of claim 84, wherein the mesenchymal precursor cells carry the markers STRO-1 and VCAM-1.

86. (New) The method of claim 79, wherein said STRO-1^{bright} cells in the enriched population comprise an exogenous nucleic acid that expresses a therapeutic agent.

87. (New) The method of claim 79, wherein the tissue is bone marrow.

88. (New) The method of claim 87, wherein the population of cells is preadsorbed onto a ceramic vehicle that is precoated with fibronectin and is implanted to augment bone marrow transplantation.

89. (New) The method of claim 88, which further comprises administering haemopoietic cells to the subject.

90. (New) The method of claim 79, wherein the STRO-1^{bright} cells are negative for at least one marker selected from the group consisting of CBFA-1, collagen type II, PPARγ2, and glycophorin A.